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## **From the Global Income Tax To the Dual Income Tax: Recent Tax Reforms in The Nordic Countries**

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# **From the Global Income Tax To the Dual Income Tax: Recent Tax Reforms In the Nordic Countries <sup>1</sup>**

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## **Abstract**

The paper discusses the recent drive towards a system of "dual" income taxation (DIT) in the Nordic countries. The pure version of this system combines progressive taxation of labour and transfer incomes with a proportional tax on income from capital at a level equal to the corporate income tax rate. The paper considers the motives for the introduction of this new income tax system, ranging from rather abstract theoretical arguments to very pragmatic practical considerations. While the Nordic DIT system violates the principles of the conventional personal income tax, it is argued that it may in fact be more in line with the philosophy of a true Haig-Simons comprehensive income tax. It is also suggested that the DIT system may cause fewer distortions to resource allocation than the conventional income tax. On the debit side, the paper points out several practical problems of taxing income from small enterprises under the differentiated income tax.

# FROM THE GLOBAL INCOME TAX TO THE DUAL INCOME TAX: RECENT TAX REFORMS IN THE NORDIC COUNTRIES

by Peter Birch Sørensen<sup>1</sup>

## 1. Introduction: The Dual Income Tax

During the 1980's the Nordic countries took an active part in the hectic tax reform efforts characterizing most of the OECD area, and in the early 1990's the reform activity in Sweden and Norway culminated in highly ambitious income tax reforms involving major cuts in marginal tax rates.

In many respects, the recent tax reforms in the Nordic countries have followed principles similar to those underlying the reforms in other OECD countries, most notably the much celebrated U.S. tax reform of 1986. Thus, the Scandinavian countries have broadened then-personal and corporate income tax bases substantially, e.g. by moving towards a more consistent taxation of "fringe benefits" and capital gains and by eliminating a number of special deductions, and they have used the resulting revenue gains to finance across-the-board cuts in marginal personal and corporate tax rates. In particular, the recent Swedish and Norwegian reforms represent a remarkable attempt to include all forms of income in the tax base, and a serious effort to restore the principle that only expenses necessary to acquire and maintain the taxpayer's income should be deductible.

However, a special feature of the new Nordic tax systems is the deliberate move away from the principle of **Global Income Taxation** (GIT) towards a system of so-called "**Dual**" **Income Taxation** (DIT). Under a progressive global income tax, a single progressive tax schedule is applied to "global income", i.e. to the **sum** of the taxpayer's incomes from all sources. By contrast, the new Nordic dual income tax is a form of schedular taxation since it separates the taxation of capital income from the taxation of other sources of income. While several other European countries have already introduced separate low rates of tax on certain

<sup>1</sup> I wish to thank Richard Bird, Sijbren Cnossen, Ken Messere and an anonymous referee for constructive and insightful comments on an earlier version of this paper. The views expressed as well as any remaining shortcomings of the paper are my own responsibility. Financial support from the Nordic Economic Research Council and the Danish National Research Foundation is gratefully acknowledged.

types of capital income - mainly due to pressures generated by high and increasing degrees of international capital mobility - the special characteristic of the Nordic DIT system is that it attempts to apply a uniform **proportional** tax to **all** forms of capital income while maintaining progressive taxation of the taxpayer's total income from other sources. In Nordic tax law, this residual income is termed "Personal Income" (in Denmark and Norway) or "Earned Income" (in Sweden and Finland), and it consists mainly of labour income, private and public pensions, and other government transfers, while "Capital Income" mainly encompasses interest, dividends, taxable capital gains, and imputed returns to the business assets of the selfemployed (see section 7.1). In Denmark taxable capital income also includes an imputed rent on owner-occupied housing. In the pure DIT system the lowest marginal tax rate for Earned Income (Personal Income) is set equal to the proportional tax rate on capital income which in turn is set equal to the corporate income tax rate.

Throughout the OECD area social security contributions are usually levied only on labour income. To the extent that social security systems are not actuarially fair, the contributions to such schemes may add to the total marginal effective tax rate on labour income. Furthermore, Value-Added taxes and other indirect taxes represent an additional form of tax on labour income<sup>2</sup>. For these reasons it is not uncommon for the total marginal tax burden on labour income to exceed the marginal tax rate on capital income. The special feature of the Nordic DIT systems is that even **within** the personal income tax system, income from capital is taxed at a flat rate which is considerably lower than the top marginal tax rate on income from other sources.

Since many other countries seem to be struggling with problems similar to those which led to the introduction of the dual income tax in the Nordic countries, this paper will discuss the rationale for the DIT system, pointing to some of the philosophical as well as practical issues raised by this new principle of taxation<sup>3</sup>. Section 2 provides an overview of the income tax schedules emerging from the recent tax reforms in the four major Nordic countries. Section

<sup>2</sup> Indirect taxes on consumption also reduce the real net return to the existing stock of "old" capital, just as they reduce the net rents earned on new intramarginal capital investments, but as long as the indirect tax rates are constant over time, they do not affect the total **marginal** effective tax rate on **new** investment.

<sup>3</sup> Various aspects of the dual income tax have previously been discussed by Lindencrona (1991 and 1993), Messere (1993, pp. 237-38), Sørensen (1993.a), Tikka (1993), and Zimmer (1993).

3 summarizes the main criticisms which have been raised against the dual income tax by adherents of the conventional global income tax, while sections 4 through 6 consider a number of equity and efficiency arguments for a low, flat rate of tax on capital income. Section 7 briefly reviews some of the practical problems of taxing income from small enterprises under the DIT system, and section 8 finally sums up the main conclusions of the paper, attempting to draw some lessons for other countries.

## **2. The move towards Dual Income Taxation in the Nordic countries**

Table 1 summarizes the changes in the income tax schedules resulting from the recent tax reforms in the four major Nordic countries. Note that the term "personal income" in the head of the table refers to personal income from sources other than capital, in accordance with the new terminology in Nordic tax law.

Formally, Denmark, Finland and Sweden all adhered to the principle of global income taxation before the recent reforms, as witnessed by the fact that pre-reform marginal tax rates on capital income were the same as pre-reform marginal tax rates on personal income. On the other hand, Norway had already made a move towards a lower top marginal tax rate on capital income before the grand 1992 tax reform in that country.

It is important to emphasize that the taxation of income from capital was very uneven in all countries before the recent reforms. This was perhaps particularly the case in Finland which granted tax exemption for several forms of interest income, but generally the Nordic tax systems tended to be characterized by a very lenient taxation of capital gains, consumption tax treatment of pension savings, and considerable tax subsidies to owner-occupied housing due to a combination of liberal rules for interest deductibility, a very low imputed rent, and virtually no taxation of capital gains on housing. As a result, the effective tax rate on several forms of capital income was often much lower than the nominal tax rates reported in table 1, and the drive towards lower nominal rates has not implied a corresponding reduction of the effective average tax burden on capital. Indeed, when the broadening of the capital income tax base and the business income tax base is allowed for, the tax reforms have involved a significant increase in the revenue from the taxation of capital income and business income

Table 1. Marginal income tax rates in an average municipality in the Nordic countries (excluding social security contributions)

Country		Marginal tax rate on personal income	Marginal tax rate on capital income	Corporate income tax rate
Denmark	Before 1987 tax reform	48-73	48-73	40
	After 1987 tax reform	50-68	50-56	50
	After 1994 tax reform	38 -58	38 - 44/58 <sup>1</sup>	34
Finland	Before 1993 tax reform	25-57	25 - 57 <sup>2</sup>	37
	After 1993 tax reform	25-57	25	25
Norway	Before 1992 tax reform	26.5 - 50	26.5 - 40.5	50.8
	After 1992 tax reform	28 - 41.7	28	28
Sweden	Before 1991 tax reform	36-72	36-72	52
	After 1991 tax reform	31 -51	30 <sup>3</sup>	30 <sup>3</sup>

1. The top marginal tax rate on positive net capital income below 20.000 Danish kroner (40,000 kroner for married couples) is only 44%, and negative net capital income may only be deducted against a top marginal rate of 44%.
2. The marginal tax rate on capital income varied widely with the type of capital income before the reform in 1993.
3. In late 1993, the Swedish government has proposed that the rate be lowered to 25%.

taken together<sup>4</sup>. When discussing the appropriateness of reducing nominal marginal tax rates on capital income on capital income below the marginal tax rates on other types of income, it is worth keeping in mind that this comprehensive base broadening might not have been politically and economically feasible if nominal tax rates on capital income had not been lowered.

The idea underlying the Nordic DIT system originated in Denmark which was also the first country to implement a variant of the system. It appears that Professor of Economics Niels Christian Nielsen (1980, ch. 8) was the first person to advance the proposal that the global income tax be replaced by a system involving a flat rate of tax on capital income - at the level of the corporate income tax rate - combined with progressive taxation of the taxpayer's total income from other sources. During political negotiations in the spring of 1985 the then existing Danish minority government did in fact propose such a system, involving a uniform proportional rate of tax of 50% on all capital income combined with a 50% corporate income tax rate. However, due to pressure from the opposition which was reluctant to give up the idea of progressive taxation of capital income, the final tax reform bill which took effect from 1987 introduced a special surtax of 6% on the excess of the sum of personal income and **positive** net capital income above a certain threshold. As a result of this surtax, positive net capital income became subject to some amount of progressive taxation, although the resulting marginal tax rate of 56% was less than the top marginal tax rate of 68% on personal income<sup>5</sup>. On the other hand, for the large number of taxpayers with negative net capital income - typically homeowners with deductions for mortgage interest payments - the marginal tax rate on capital income became equal to the bottom marginal tax rate of 50% on personal income.

In the early 1990's Denmark reduced the corporate income tax rate from 50% to 34% without reducing the capital income tax rate correspondingly, and in a new 1993 tax reform bill aimed at lowering marginal tax rates on labour income, the Danish parliament made a

<sup>4</sup> For instance, the Swedish Ministry of Finance (1991) has estimated that the Swedish tax reform of 1991 raised the revenue from the taxation of income from capital by approximately 2.7% of GDP. Thus, while the **marginal** tax rate on conventional forms of capital income such as interest has indeed been reduced, the **average effective** tax rate on the return to capital (including corporate source income) has on the whole increased considerably as a result of the Swedish tax reform.

<sup>5</sup> Actually, the 1987 tax reform bill also included a so-called "transition scheme" designed to ensure that the capital income of very wealthy taxpayers would effectively remain subject to a top marginal tax rate of 68% forever!



further move away from the pure DIT system. Thus, in the new Danish tax system prevailing from 1994, positive net capital income above 20,000 kroner (40,000 for married couples) will be subject to the same marginal tax rates as personal income, and income from shares (dividends and taxable capital gains) will not be taxed as ordinary capital income but will instead be subject to a separate two-bracket progressive tax schedule, with a 30% tax rate on stock income below 30,000 kroner and a marginal tax rate of 45% on income above that level.

While Denmark has thus failed to implement the dual income tax consistently, the idea underlying the DIT system has caught on in the other Nordic countries, and Norway, Sweden and Finland have introduced purely proportional taxation of capital income at a rate equal to the corporate income tax rate, as indicated in table 1. Norway and Finland have also introduced the imputation system for eliminating the double taxation of corporate dividends, and the Swedish government is planning to eliminate double taxation of distributed earnings by abolishing the personal capital income tax on dividends<sup>6</sup>.

It is worth noting that capital income taxation in Finland, Norway, and Sweden is indeed purely proportional, since these countries only offer a tax-free allowance for earned income (personal income), but not for capital income. By contrast, the Danish tax system grants a tax-free allowance for both sources of income.

### **3. Criticisms of the system of Dual Income Taxation**

The literature on the principles of taxation usually recognizes only two indicators of the individual's ability to pay taxes: income or consumption<sup>7</sup>. Both of these measures of ability-to-pay have found eloquent proponents, whereas it would seem difficult to defend the Nordic system of Dual Income Taxation by appeal to accepted standards of taxpayer equity. Under the DIT system, the taxpayer's total tax bill depends not only on his total income, but also on the division of that income between capital income and other forms of income. This does not accord with the philosophy of comprehensive income taxation. Nor does the individual's tax bill under the DIT system coincide with the tax bill implied by a personal consumption tax,

<sup>6</sup> The Nordic corporate tax systems are described and analyzed in more detail in Andersson et alia (1994).

<sup>7</sup> Sometimes the taxpayer's stock of net wealth is also singled out as an alternative or complementary indicator of ability to pay.

except by chance.

Critics of the DIT system have also pointed out that the system requires a splitting of the income of the selfemployed and the income of active owners of small corporations into a labour income component and a capital income component, involving considerable administrative difficulties.

Furthermore, it has been argued that the DIT system creates new room for tax avoidance through the transformation of labour income subject to high marginal tax rates into capital income subject to low tax rates.

Nevertheless, it is possible to advance a number of arguments in favour of the **DIT** system. While many of these arguments are rather (some would say unduly) pragmatic and have rarely been stated very precisely, some of them do in fact appeal to more basic principles. Below I shall try to collect the various arguments which have appeared in the debate on the DIT system and to offer some additional ones.

It is useful to distinguish arguments based on considerations of taxpayer **equity** from arguments arising from concern with economic **efficiency**. I shall also attempt to separate the arguments for a **low** tax rate on capital income from the arguments for a **proportional** tax rate on such income. Since the critics of the DIT system have mainly complained about the alleged violation of horizontal equity implied by the system, I shall start out considering some equity arguments for a low proportional rate of tax on capital income. My initial concern will be with the issue of **horizontal** equity, i.e. the problem of ensuring equal tax treatment of individuals who are in equal positions before the Exchequer takes his toll. Subsequently, I shall briefly consider the DIT system in the light of the principle of **vertical** equity which calls for individuals with a higher ability to pay to be subject to higher tax burdens.

## **4. EQUITY ASPECTS OF THE D.I.T. SYSTEM**

### **4.1. Dual income taxation in a life cycle perspective**

Scholars who favour a personal consumption tax over the conventional income tax have long argued that the taxation of capital income under the income tax tends to discriminate against individuals whose consumption falls in a later stage of the life cycle than their income (see, e.g. Kay, 1990).

**Table 2. The tax treatment of "early" versus "late" spenders under the income tax**

	Person A		Person B	
	Period 1	Period 2	Period 1	Period 2
1. Wage income	2000	2000	2000	2000
2. Interest income	0	0	0	100
3. Tax (50% of 1. + 2.)	1000	1000	1000	1050
4. Saving	0	0	1000	-1000
5. Consumption (1.+2.-3.-4.)	1000	1000	0	2050
Present value of total tax payment*	1952.4		2000	

Calculated as the tax payment in period 1 plus the discounted value of the tax paid in period 2. The pre-tax interest rate is assumed to be 10%, the income tax rate is taken to be 50%, and the discount rate is the after-tax interest rate of 5%.

**Table 3. The tax treatment of "early" versus "late" earners under the income tax**

	Person A		Person B	
	Period 1	Period 2	Period 1	Period 2
1. Wage income	2000	0	0	2100 <sup>1</sup>
2. Interest income	0	100	0	0
3. Tax (50% of 1. + 2.)	1000	50	0	1050
4. Saving	1000	-1000	0	0
5. Consumption (1.+2.-3.-4.)	0	1050	0	1050
Present value of total tax payment*	1047.6		1000	

Calculated as the tax payment in period 1 plus the discounted value of the tax paid in period 2. The pre-tax interest rate is assumed to be 10%, the income tax rate is taken to be 50%, and the discount rate is the after-tax interest rate of 5%.

<sup>1</sup> With a discount rate of 5%, this wage income has a present value of 2000, equal to person A's wage income in period 1.

This point is illustrated by the stylized examples in tables 2 and 3. In table 2 persons A and B have exactly the same wage income over the two periods of their life cycle. However, because B chooses to save his after-tax income in period 1, thus postponing consumption to period 2, he will be subject to tax on his interest income in that period. Compared to person A he will therefore end up paying a higher amount of lifetime taxes (even in present value terms), despite the fact that the two individuals have exactly the same lifetime opportunities in the sense that they earn exactly the same wages in each period.

In table 3 we consider a case where both individuals choose to postpone their consumption to period 2, and where both have the same present value of lifetime wages, but where A earns his wages earlier in life than B. Due to the tax on interest income, we see that A must pay a higher present value of lifetime taxes than B, because A happens to earn his lifetime income at an earlier stage of the life cycle.

If there were no tax on income from capital, these horizontal inequities would clearly not arise. Since the Nordic DIT system involves a lower tax rate on capital income than a comprehensive Haig-Simons income tax, it can be argued that the DIT system helps to reduce the horizontal discrimination between taxpayers with different time profiles of earnings and consumption.

#### 4.2. Capital income taxation in an inflationary economy

A genuine comprehensive income tax would tax only the **real** return to capital and would exempt that part of nominal capital income which the taxpayer must set aside to prevent inflation from eroding the real value of her stock of nominal assets.

In principle, taxable nominal income should thus be adjusted for inflation before tax is levied. However, in practice tax administrations have rarely attempted to undertake a systematic inflation adjustment of taxable income, except under circumstances of hyperinflation. The main reason seems to be that systematic inflation adjustment is viewed as involving too many administrative difficulties.

If for practical reasons tax has to be levied on nominal rather than real income from capital, a conventional income tax will *ceteris paribus* imply excessive taxation of such income in times of inflation. To be more specific, if tax is charged on the entire nominal return, the **effective** tax rate **m** on true (real) capital income will be given by

$$m = \frac{t(r+p)}{r} \quad (1)$$

where  $t$  is the nominal tax rate,  $r$  is the real rate of return before tax, and  $p$  is the rate of inflation. Thus, if the real rate of return is 5%, if the rate of inflation is likewise 5%, and the nominal tax rate is 50%, the effective tax rate on capital income will be 100%, implying confiscation of the entire real return.

In the Nordic debate this observation has been used to justify the application of a lower tax-rate on (nominal) capital income than on labour income, the argument being that the tax on labour earnings is essentially a cash-flow type of levy which is automatically indexed for inflation. To give an example: If policy makers wish to tax income from labour as well as real income from capital at an effective rate of 50%; if the nominal return to capital is 10%, and if the rate of inflation is a modest 2%, the tax system should involve a 50% tax rate for labour income combined with a 40% tax rate on nominal capital income, since the effective tax rate on the real return to capital would then be  $(0.4 \times 0.1) / (0.1 - 0.02) = 50\%$ .

Notice that this justification for the DIT system is weakened to the extent that some types of nominal income from capital - e.g. nominal capital gains on owner-occupied houses - are not subject to tax. Recognizing this, the governments of the Scandinavian countries have indeed moved towards a more consistent taxation of some forms of nominal capital gains, although gains on owner-occupied houses are still largely untaxed.

It is also worth recording that the above "inflation argument" for the DIT system has recently lost some of its previous force as the Scandinavian countries have changed status from high-inflation to low-inflation countries.

#### **4.3. The taxation of human capital**

Besides discriminating against "early earners" and "late spenders" - as explained in section 4.1 - the conventional income tax also tends to discriminate against investment in financial and physical capital compared to investment in human capital. Table 4 attempts to illustrate this point. In period 1 both persons A and B have the same skills and hence the same potential wage income of 200. Person B decides to spend period 1 working and earning this amount of 200. Half the amount is paid in tax, and B decides to invest the remaining amount in a financial asset offering a pre-tax return of 10%. In period 2 person B is thus able to consume his wage income plus the interest earned on his savings from the previous period plus the proceeds from the sale of his financial asset minus the income tax, amounting to a consumption level of 205, as indicated in table 4.

Person A has the same opportunities as B but chooses to exploit them differently. Thus,

in period 1 he decides to forego his potential wage income of 200 and to spend his time augmenting his skills by engaging in education. For the purpose of comparison, we assume that the pre-tax return on this human capital investment equals the return on financial investment, i.e. 10%. By foregoing an income of 200 in period 1, person A will then be able to earn an **additional** labour income of  $1.1 \times 200 = 220$  in period 2 on top of the wage of 200 units which can be earned by unskilled labour. When the 50% income tax is deducted, this leaves A with disposable income and consumption of 210 in period 2.

**Table 4. Investment in human capital versus financial investment under the conventional income tax**

	Person A		Person B	
	(Engages in education in period 1)		(Undertakes financial investment in period 1)	
	Period 1	Period 2	Period 1	Period 2
1. Potential wage income	200	420*	200	200
2. Actual wage income	0	420	200	200
3. Interest income	0	0	0	10
4. Tax (50% of 2. + 3.)	0	210	100	105
5. Financial investment	0	0	100	-100
6. Consumption (2.+3.-4.-5.)	0	210	0	205

Note: The pre-tax rate of return on financial as well as human capital investment is assumed to be 10%.

This amount is equal to the ordinary wage income of 200 for an uneducated person plus additional wage earnings of  $1.1 \times 200 = 220$  as a result of the educational investment in period 1, i.e. the pre-tax wage income of 200 foregone in period 1.

Although the two individuals face the same opportunities at the beginning of period 1, and despite the fact that the pre-tax return to financial investment and human capital investment is the same, the two taxpayers end up with different levels of consumption after having paid their dues to the fisc. The reason is that the conventional income tax essentially offers consumption tax treatment of human capital investment. Under a personal consumption tax the taxpayer may deduct his purchases of financial and physical assets from his tax base. Under the conventional income tax, human capital investment is treated in a similar manner,

since the cost of acquiring human capital typically takes the form of foregone (taxable) wage income during the period of education or training. Because the conventional income tax taxes wages as they are earned, the cost of human capital investment (foregone wages) implies an immediate deduction of a similar amount from taxable income. In this sense there is "full expensing" of human capital investment under the traditional income tax, whereas the costs of acquiring physical capital are only allowed to be capitalized and depreciated over the life of the asset<sup>8</sup>.

In contrast to the conventional income tax, a true Haig-Simons income tax would tax the taxpayer's consumption plus **all** additions to his real net wealth (and allow deductions for all reductions of wealth), including additions to his stock of human capital. In principle, taxable income in period  $t$  ( $Y_t$ ) for a wage earner under a Haig-Simons income tax would thus be

$$Y_t = w_t + H_t - H_{t-1} \quad (2)$$

where  $w_t$  is current wage income and  $H_t$  is the stock of human capital at the end of period  $t$ , which is equal to the present value of future after-tax labour income at that time.

In practice, it would of course be impossible to implement such a truly comprehensive income tax which included changes in the stock of human wealth in the tax base. First of all, there would be insurmountable problems of measuring the human wealth of each taxpayer. Second, it would in principle be necessary to levy large amounts of tax on new-born individuals who experience a large human capital gain as they are born!

However, as Kaplow (1993) has recently demonstrated, if taxable wage income in each year were adjusted by the factor

$$1 + \frac{ar}{1+r} \quad (3)$$

where  $a$  is the taxpayer's age and  $r$  is the discount rate, then the present value of taxes paid over the life cycle would in fact be exactly equal to the present value of lifetime taxes paid

<sup>8</sup> Nerlove et alia (1993) have contended that the conventional income tax actually discriminates **against** human capital investment because it allows deductions for the depreciation of physical capital, but no deduction for the depreciation of human capital. However, the formal model underlying this argument is based on the extreme assumption that **all** of the cost of human capital investment takes the form of pecuniary outlays (e.g. tuition fees) whereas the consumer does **not** have to forego any taxable labour income to acquire human capital. In a Nordic institutional context with free education, it seems much more reasonable to assume that the opportunity cost of human capital investment mainly takes the form of foregone earnings, and in that case there is full expensing rather than zero depreciation of human capital investment, as explained above.

under a true Haig-Simons income tax using (2) as the tax base. Thus, even when tax liabilities have to be based on observable current wage income, it is possible in present value terms to achieve the same distribution of the lifetime tax burden as under a genuine comprehensive income tax, for a given pattern of pre-tax wage incomes<sup>9</sup>.

The relevance of Kaplow's result for the debate on the Nordic DIT system is that adjustment of current taxable wage income by the factor given in (3) - which is greater than one except in the first period of the taxpayer's active life - is clearly equivalent in qualitative terms to taxing unadjusted labour income at a higher rate than income from capital. The problem with the adjustment procedure suggested by Kaplow is that it would imply an effective tax rate on current wage income which would be **increasing** with the age of the taxpayer. Apart from the difficulties of explaining the philosophy of such a tax system to the ordinary taxpayer, this might involve serious disincentives to work efforts for individuals in their later stages of life, as Kaplow (1993, p. 19) does indeed note.

The Nordic DIT system applies the same tax schedule to all labour income, regardless of the age of the taxpayer, so the system obviously does not provide an exact correction for the fact that changes in the stock of human wealth are not included in the tax base. The purpose of the preceding discussion is simply to point out that if the philosophy of the comprehensive income tax is taken seriously, there is indeed a theoretical argument for taxing labour income at a higher rate than capital income, in contrast to popular beliefs.

To sum up this section, we may say that the analysis underlying table 4 provides a horizontal equity argument for combining **progressive** taxation of labour income with proportional taxation of income from non-human capital, since progressivity of labour income taxation ensures that the return to human capital investment is also subject to tax. In addition, Kaplow's analysis would seem to provide some justification for allowing the top marginal tax rate on labour income to exceed the proportional tax rate on capital income.

#### **4.4. Vertical equity, capital gains, and proportional taxation of income from capital**

Section 4.1 suggested that there is a case for a relatively low tax rate on capital income if

<sup>9</sup> Of course, if labour supply is endogenous, the two hypothetical tax systems considered here would in fact produce different equilibrium patterns of pre-tax wage incomes, because they would imply different time profiles of the marginal tax rate on labour income over the individual's life cycle, as noted below.



one accepts the life cycle perspective adopted by advocates of the consumption tax. Furthermore, sections 4.2 and 4.3 argued that even if one fully accepts the philosophy of the Haig-Simons comprehensive income tax, there is still a case for taxing (nominal) capital income more lightly than labour income, given the practical difficulties of inflation adjustment of nominal income and the practical impossibility of including changes in human capital in the tax base.

These arguments run counter to the classical argument of earlier times that, under a schedular income tax, capital income really ought to be taxed at a **higher** rate than labour income, because of the "unearned" character of income from capital. A modern version of this argument could be that, in the presence of employment risks and the risk of illness and disability to work, the degree of risk associated with wage income is greater than the risk attached to interest income<sup>10</sup>. On the other hand, several forms of capital income are highly risky, and the modern Scandinavian welfare state offers rather generous amounts of social insurance to wage earners.

The arguments above appeal to the principle of horizontal equity, i.e. the principle of equal tax treatment of individuals who are in some sense in an equal position before tax. However, some critics of the DIT system have maintained that a lowering of the tax rate on capital income relative to the tax rate on labour income tends to undermine the **vertical** equity of the tax system, because income from capital tends to be concentrated in the upper income brackets.

Defenders of the DIT have responded that if one wishes to use the tax system to counteract excessive concentration of income and wealth, taxes on inheritance or wealth could be more relevant instruments than high marginal tax rates on (nominal) capital income<sup>11</sup>. Furthermore, they argue that in practice it may be impossible to implement a consistent taxation of capital gains unless the marginal tax rate on capital income (including capital gains) is fairly low, since capital gains usually cannot be taxed until the time they are realized. If marginal tax rates on capital gains are very high, this realization principle tends to create intolerable "locking-in" effects, inducing taxpayers to hold on to their assets as long as possible and hampering normal transactions in the capital market. If policy makers insist on applying high

<sup>10</sup> I owe this point to Richard Bird.

<sup>11</sup> However, as Sijbren Cnossen has pointed out to me, the appropriate instrument to counter excessive concentration of income and wealth may really be an accessions tax.

marginal tax rates to capital income, they may therefore have to accept all sorts of exemptions or concessions when it comes to the taxation of capital gains, whereas a low flat rate of tax on capital income may make it easier to tax capital gains at the same rate as other forms of return to capital. At least it is a fact that the introduction of the DIT system in Norway and Sweden has been accompanied by a marked tightening of capital gains taxation, and a similar tightening is about to be implemented in Denmark.

An additional argument for purely **proportional** taxation of capital income could be that progressive taxation of realized capital gains may involve excessive taxation, because the taxpayer may be pushed into a much higher tax bracket in the year of realization. If for this reason one is forced to accept proportional taxation of capital gains, it could be argued that other forms of capital income should be granted a similar treatment (i.e. proportional taxation) to avoid discrimination in favour of one particular form of capital income. However, it has to be admitted that the equity case for exempting capital gains from the **progressivity** of the income tax is rather weak, since earners of capital gains benefit from the deferral of tax until the time of realization of the gain.

Proponents of the DIT system have also pointed out that proportional (as opposed to progressive) taxation of capital income eliminates the opportunities for certain forms of tax arbitrage which rely on exploitation of differences in the marginal tax rates faced by different individual taxpayers. In particular, the scope for tax avoidance through transfers of wealth among family members is significantly reduced when all taxpayers face the same tax rate on income from capital, as Lindencrona (1993) has stressed.

Moreover, under the conventional income tax many types of tax arbitrage have been based on the accumulation within a corporation of the return to assets acquired for borrowed funds, with the owners of the corporation taking advantage of interest deductibility against a high marginal personal tax rate combined with a lower corporate income tax rate on the return to the assets and a postponement of the tax on capital gains on shares until the time of realization. Such arbitrage activity obviously becomes unprofitable in the pure version of the Scandinavian DIT system where the flat personal tax rate on capital income is aligned with the corporate income tax rate.

Because taxpayers engaging in large scale tax arbitrage are usually found in the upper income brackets, it has been argued that these aspects of the DIT system are attractive from the perspective of vertical taxpayer equity. On the other hand, critics have argued that the DIT system provides new opportunities for tax avoidance through the transformation of highly

taxed labour income such as wages to corporate owner-managers into lightly taxed capital income such as dividends or capital gains on shares.

## 5. EFFICIENCY ASPECTS OF THE D.I.T. SYSTEM

### 5.1. The DIT system and the theory of optimal taxation

While Part 4 discussed the DIT system in the light of traditional principles of taxpayer equity, this part of the paper will consider a number of reasons why the DIT system may be more in line with the requirements of economic efficiency than the conventional income tax.

Due to contributions by scholars such as Atkinson and Sandmo (1980) and King (1980), it has long been known that it is generally not efficient - in the sense of maximizing the utility of the representative consumer - to tax income from capital at the same rate as labour income, as one would do under a comprehensive income tax. Instead, if it is necessary to raise a certain amount of revenue through distortionary taxes on income from capital and labour, the tax rates on the two types of income should be differentiated to allow for the relative sensitivity of labour supply and savings with respect to the after-tax real wage rate and the after-tax real interest rate. For instance, if changes in after-tax factor prices elicit rather small substitution effects on labour supply but relatively large substitution effects on savings, it is second-best optimal to impose a high tax rate on labour income relative to the tax rate on capital income.

Indeed, based on the then prevailing estimates of the compensated elasticities of labour supply and savings, King (1980) noted that it might in fact be efficient to **subsidize** rather than tax capital at the margin, thus concentrating all of the tax burden on labour. Yet, given the uncertainty regarding the true magnitude of the crucial compensated elasticities (and cross elasticities), it seems fair to conclude that the question of the relative magnitude of the optimal second-best tax rates on income from capital and labour still remains an unresolved issue in a closed-economy context.

However, in a small open economy with perfect international mobility of capital, the literature has demonstrated that it is optimal to exempt capital income from tax altogether (at least at the margin) and to concentrate the tax burden on labour income, if it is impossible for the authorities to monitor and enforce taxes on income from capital invested abroad (see, e.g. Razin and Sadka, 1989). Essentially, this proposition follows from the old insight that it is

futile and inefficient to attempt to levy a tax burden on factors of production which are in perfectly elastic supply. Thus, when capital may costlessly escape domestic taxation by moving abroad, the tax burden will at any rate have to be carried by the immobile domestic factors, and taxes on domestic capital will only lead to a capital flight which will tend to reduce the return to the other domestic factors of production through a reduced capital intensity of domestic production.

In practice, the recent Nordic tax reforms have reduced the marginal tax rate on the return to financial assets (mainly interest), but even though statutory tax rates on business profits have also come down, the base-broadening elements of the reforms have tended to raise the marginal effective tax rate on physical business investment. Since financial capital is becoming increasingly mobile internationally, whereas physical capital is somewhat less mobile, this change in the structure of capital income taxation seems to make good sense from a theoretical viewpoint, given the practical difficulties of enforcing residence-based taxes on foreign source income from portfolio investment. Moreover, by breaking the link between the capital income tax rate and the personal marginal tax rate on labour income, the Nordic governments have made it easier to undertake future downward adjustments of the capital income tax if further increases in the international mobility of capital should warrant such a step.

## **5.2. The human-capital argument revisited**

The existence of human capital investment as an alternative to physical and financial investment may provide a further efficiency argument for the new Nordic tax system. Recall from the discussion of table 4 that the conventional income tax tends to discriminate against financial (and physical) investment compared to investment in human capital formation. Given a number of simplifying assumptions similar to those underlying table 4, it can be shown that it is indeed second-best optimal to counteract this distortion through a surtax on "high" levels of income from labour (see Sørensen, 1994, appendix). In other words, in the presence of human capital investment the Nordic DIT system - which combines a proportional tax on capital income and low levels of labour income with a surtax on high levels of labour income - may well be more efficient than a conventional income tax.

Of course, the efficiency case for taxing the return to human capital investment through progressive taxation of labour income is weakened if there are significant positive externalities

from education<sup>12</sup>; if capital market imperfections make it difficult for young people to borrow for education purposes, and if the opportunity cost of education consists not only of foregone labour income, but also of foregone leisure and other cost items such as tuition fees.

On the other hand, there may be other efficiency arguments for subjecting labour income to a progressive tax schedule, even if capital income is subject to proportional taxation. Thus, many writers (including Lockwood and Manning, 1993) have argued that progressive taxes on labour income may moderate wage claims in unionized countries, thereby reducing the amount of involuntary unemployment.

### **5.3. The revenue argument**

The discussion above has accepted the premise that a lower (marginal) tax rate on capital income will require a higher (marginal) tax rate on labour income to satisfy the government's need for revenue. However, in the Scandinavian institutional context this assumption may be highly misleading. Thus, the tax systems of Denmark, Norway and Sweden have traditionally been characterized by liberal rules for interest deductibility combined with favourable tax treatment of several types of capital income, most notably the return to pension savings and the return to owner-occupied housing. As a consequence, rather than providing a source of government revenue, personal taxes on capital income have historically tended to imply a substantial **loss** of revenue for the Scandinavian governments, particularly in Denmark and Sweden<sup>13</sup>.

A purist defender of the Haig-Simons income tax would argue that this problem arises only because governments do not adhere consistently to the principles of comprehensive income taxation. This is obviously true, but not very interesting, given the formidable political difficulties of eliminating the tax privileges to home-ownership and pension savings.

<sup>12</sup> The paper by Sørensen (1993.b) contains a dynamic analysis of optimal government policy towards human capital investment in the presence of positive externalities from such investment.

<sup>13</sup> Thus, Sørensen (1988) estimated that in 1986, the net revenue from personal taxes on capital income in Denmark amounted to a negative 1.6% of net national income, equivalent to minus 11% of aggregate net capital income, as calculated from the national accounts. Furthermore, Hansson and Norrman (1986) estimated that, on average, personal taxes on capital income in Sweden in 1982 amounted to minus 0.3% of the economic income of Swedish households, but with a strongly regressive pattern, since net capital income taxes were about minus 2% of the incomes of the two upper deciles of the income distribution.

If these privileges have to be taken as a political datum, the so-called capital income tax tends to degenerate into a selective tax on interest income combined with a subsidy to consumer borrowing via interest deductibility. In such a context, the lowering of the tax rate on capital income towards the level of the corporate income tax rate may be seen as a pragmatic way of reducing the revenue loss from interest deductibility, thereby paving the way for a **reduction** of the high distortionary marginal tax rates on labour income.

The ongoing internationalization of the Nordic economies may strengthen this "revenue argument" for a relatively low tax rate on capital income. With increasing international mobility of capital, it will become more common for taxpayers to invest part of their savings abroad. Since it is often difficult for the domestic tax authorities to monitor foreign source capital income effectively, the capital income tax base may tend to shrink as capital mobility increases, and a lowering of the capital income tax rate may be necessary to reduce the tax incentives for capital exports.

#### **5.4. The neutrality argument**

The political and technical difficulties of ensuring a consistent and comprehensive taxation of all forms of capital income - including imputed rent and capital gains - inevitably imply considerable differences in the marginal effective tax rates on different types of saving and investment under a conventional income tax. The resulting distortions of the pattern of saving and investment will tend to be particularly severe in countries such as those of Scandinavia where very high levels of government expenditure call for high marginal tax rates on capital income under a conventional income tax.

In practice, the **intersectoral** distortions of capital allocation caused by the conventional income tax may thus be more serious than the intertemporal distortion of the overall savings level on which traditional optimal tax theory has tended to focus, and the reduction of the tax rate on capital income involved by the DIT system may be seen as an attempt to reduce these intersectoral distortions.

A specific efficiency argument for proportional rather than progressive taxation of capital income is that the after-tax return to saving will differ across taxpayers when their marginal tax rates are not identical. Progressivity therefore causes the marginal rate of substitution between present and future consumption to differ from one taxpayer to another, implying an inefficient allocation of the overall level of savings.

### **5.5. The savings argument**

As already noted, the high levels of public expenditure in Scandinavia tends to call for high marginal tax rates on capital income under a conventional income tax. To the extent that the authorities are in fact able to monitor foreign source capital income (e.g. through international agreements on exchange of information between national tax administrations), these high domestic marginal tax rates cannot be escaped through investment abroad, and they will then tend to weaken domestic savings incentives.

More specifically, under an income tax based on the residence principle (so-called worldwide income taxation) international capital mobility will tend to equalize the pre-tax level of interest rates across countries, and savers in countries with the highest marginal tax rates on capital income will therefore end up with the lowest after-tax return to their savings. This may tend to cause a savings deficit and a resulting balance-of-payments deficit in these countries.

In Scandinavia, where rather generous public social insurance systems have already weakened precautionary savings and savings motivated by life cycle considerations, a further systematic tax disincentive to private saving may be particularly damaging to economic efficiency, and concern over low levels of private saving does in fact seem to have been an important motivation for the lowering of the capital income tax rate through the introduction of the DIT system.

Note, however, that the saving disincentives caused by a conventional income tax are likely to be due mainly to the deductibility of interest expenses against high marginal tax rates. For taxpayers with a positive net financial asset position, the taxation of the return to saving generates offsetting income and substitution effects. This observation was one reason why the Danish tax reform bill of 1993 retained some progressivity in the taxation of positive net capital income while maintaining the principle of the DIT system that interest expenses cannot be deducted against the top marginal income tax rate.

### **6. The DIT system and the relationship between personal and corporate taxes**

In the pure version of the Nordic DIT system the flat personal tax rate on net capital income is aligned with the corporate income tax rate. As noted in section 4.5, such alignment ensures that there can be no arbitrage gain from accumulating the return to debt-financed assets within a lightly taxed corporation while deducting the interest payment against a high

personal tax rate.

Another potential advantage of the DIT system is that the alignment of the personal tax rate on capital income with the corporate income tax rate will in principle eliminate the need to tax corporate source income at the personal level, at least if one takes an "integrated" view of the corporation and its owners and abstracts from foreign source income. When income earned by a domestic corporation has already been taxed at a rate equal to the tax rate on other types of capital income such as interest, an additional tax on the dividends and capital gains on shares resulting from corporate earnings would imply double taxation of corporate source income.

However, while the Nordic countries do take a number of steps to alleviate the economic double taxation of corporate income, they have not exempted dividends and capital gains on shares from personal tax altogether<sup>14</sup>. International considerations seem to provide one reason for maintaining personal taxes on these forms of capital income; unwillingness to pass on certain corporate tax privileges to personal investors may be another reason. As we shall see in section 7.2, retention of some amount of personal tax on capital income from corporate sources also makes it more difficult for owners of closely held corporations to reduce their tax burden by transforming labour income into dividends or capital gains.

## **7. TAXATION OF INCOME FROM SMALL ENTERPRISES: THE ACHILLES HEEL OF THE D.I.T. SYSTEM**

### **7.1. The taxation of the selfemployed<sup>15</sup>**

Following this consideration of equity and efficiency arguments for the DIT system, we shall now briefly touch on what is probably the most important weakness of the system: The taxation of small enterprises.

The income of a selfemployed businessman consists partly of a reward for his work effort and partly of a return to the savings invested in his firm. Under a tax system involving different tax rates for labour income and capital income, an equal treatment of wage earners

<sup>14</sup> Again, the reader is referred to Andersson et alia (1994) for details.

<sup>15</sup> The problem of taxing the income of the selfemployed is discussed in greater detail in Hagen and Sørensen (1994).



and the selfemployed therefore requires that the income of the latter be split into a labour income component and a capital income component and taxed accordingly. This income splitting gives rise to a number of practical problems.

Since the two income components cannot be observed directly, it is necessary either to impute an estimated wage income to the selfemployed taxpayer and categorize his remaining business income as capital income, or to impute a return to the capital invested in the **firm** and categorize the residual business income as labour income.

The calculation of an imputed wage income would raise formidable problems, partly because the work effort of the selfemployed cannot be effectively monitored by the authorities, and partly because it would be very difficult to decide on an appropriate wage rate per hour of work. Furthermore, such a procedure would imply that the marginal tax rate of the selfemployed would equal the low proportional tax rate on capital income. With progressive taxation of the fixed imputed wage income, the average tax rate (defined as the total tax liability relative to total business income) imposed on the selfemployed would thus fall with rising business incomes, i.e. the system would tend to be regressive.

Not surprisingly, the Nordic countries have therefore chosen to split the income of the selfemployed by imputing a return to the capital invested in the firm and categorizing the residual business income as labour income<sup>16</sup>. Of course this procedure also raises a number of issues. First of all, one has to define the types of business assets to which a return may be imputed. This delineation is bound to involve a certain element of arbitrariness when it comes to assets which are used both for private purposes and for business purposes.

Second, the value of the business assets has to be assessed before a rate of return can be imputed to them. For standard depreciable assets such an assessment is already undertaken for the purpose of calculating depreciation allowances, but for certain intangible assets there may be special valuation problems.

Third, one has to decide on the proper rate of return to be imputed to the assessed value of business assets. This is difficult because no single "market" rate of interest would seem to be an obvious candidate, and because one should in principle include an appropriate risk premium in the rate of return.

Finally, it must be decided whether financial assets and liabilities should be included in the

<sup>16</sup> Norwegian tax law contains one modification to this general rule: if residual business income exceeds a certain high threshold, the excess of residual income above this threshold is in fact taxed as capital income.

basis for calculating the imputed return. If net financial liabilities are deducted from the asset base, the labour income of the selfemployed must be calculated as business profits **net** of interest payments minus the imputed return to the net equity invested in the business. This may be termed the "net" method. Alternatively, taxable labour income may be calculated as business profits **before** interest minus an imputed return to gross business assets. Thus, under this "gross" method there is no deduction of net financial liabilities from the asset base. The two methods can be shown to imply the same tax liability if the rate of return used in the imputation procedure is equal to the actual rate of interest which the proprietor must pay on his debt. If the actual interest rate is higher, the net method is more favourable to the businessman than the gross method, and vice versa when the rate of interest is lower than the imputed rate of return.

While the "gross" method will distort investment decisions when the rate of interest deviates from the imputed rate of return, the "net" method can be shown to be nondistortious vis à vis debt-financed investment even in the presence of such deviations. On the other hand, the net method enables the selfemployed to reduce his tax liability by registering "private" debt with an interest rate above the imputed rate of return as "business" debt<sup>17</sup>.

In addition to the main issues raised above, the taxation of the selfemployed under the Nordic DIT system involves several other technicalities and has created considerable controversy. When the tax reform of 1991 was enacted, the Swedish government therefore decided to postpone the implementation of a long term solution to the problem of splitting the income of the selfemployed. Instead, such income continued to be taxed as earned income, with full deductibility of interest expenses against the top marginal tax rate, as long as the registered net assets of the business was positive. However, from 1994 Sweden is planning to introduce a variant of the "net" method for splitting the income of the selfemployed, and the same goes for Finland. Norway has chosen to implement a version of the "gross" method, while the selfemployed in Denmark may choose freely between the gross method and a complicated (but generous) variant of the net method.

## **7.2. The taxation of corporations with active owners**

The taxation of small corporations with active owners under the DIT system creates

<sup>17</sup> Hagen and Sørensen (1994) provide examples illustrating the implications of the choice between the "gross" and the "net" method.

problems reminiscent of those relating to the taxation of income from selfemployment. When a stockholder is employed (e.g. as a manager) by the corporation in which he holds shares, he earns labour income as well as capital income from the corporation. If he owns a controlling share in the firm, he will generally enjoy a high degree of flexibility when deciding whether to take out income from the corporation in the form of wages, dividends or capital gains on shares. If the total corporate and personal tax burden on dividends or capital gains is lower than the marginal tax rate on labour income - as is the case in the pure version of the DIT system - the shareholder will be able to reduce his tax liability by paying himself dividends (or by accumulating capital gains) rather than wages.

In order to prevent such tax avoidance, Norwegian tax law therefore requires that so-called active owners of corporations be taxed according to the same rules as selfemployed businessmen. Thus, an imputed rate of return on the share of corporate assets owned by the "active" owner is taxed as capital income, and the remaining part of his share of corporate profits is taxed as labour income. These rules are applied when one or several active owners of a company own at least two thirds of the shares of the firm or are entitled to at least two thirds of the dividends from the firm. The problem is to determine when a shareholder is "active" in his firm. At what level of "activity" does he become "active" for tax purposes? Obviously, the separation of "active" from "passive" shareholders is bound to involve some arbitrariness.

In Sweden the income of "active" owners of corporations is also split into a capital income component and a labour income component. The capital income of the active owner is calculated as an imputed rate of return on the acquisition price of his shares.

Finnish tax law has cut through the problem of separating "active" from "passive" shareholders by requiring that all corporations which are not listed on the Helsinki Stock Exchange or in a foreign stock exchange be taxed according to the same rules as private firms, implying that an imputed return of 15% of the net assets of unquoted companies is taxed at the capital income tax rate (which equals the corporate tax rate) while the remaining profits are taxed as earned income. Clearly, this procedure means that profits which do in fact represent a return to corporate capital may sometimes end up being taxed as earned income.

In contrast, Denmark does not require a splitting of the income of active shareholders, relying instead on a certain amount of double taxation of corporate source income to discourage the transformation of the wages of active shareholders into dividends and capital gains.

## 8. CONCLUDING REMARKS

This paper has discussed the recent drive towards a system of "dual" income taxation in the Nordic countries. The pure version of this DIT system combines progressive taxation of labour and transfer incomes with a proportional tax on income from capital at a level equal to the corporate income tax rate.

We considered a wide range of motives for the introduction of this new income tax system, ranging from rather abstract theoretical arguments to very pragmatic practical considerations. While dual income taxation clearly violates the principles of the conventional personal income tax, we argued that it might in fact be more in line with the philosophy of a true Haig-Simons comprehensive income tax, given the practical impossibility of including changes in human capital in the tax base, and given the difficulties of undertaking systematic inflation adjustment of taxable nominal capital income. We also suggested a number of reasons why the Nordic DIT system might cause fewer distortions to resource allocation than the conventional income tax. On the debit side, we pointed out several practical problems of taxing income from selfemployment under the differentiated income tax.

Although a complete evaluation of the new Nordic tax system must await the accumulation of further experience, it already seems possible to draw certain lessons from the recent Nordic tax reform experiments:

First, the transition to a tax system with a relatively low tax rate on capital income may cause adjustment problems and capital losses in the market for owner-occupied housing, because a lower capital income tax rate tends to imply lower tax subsidies to owner-occupation. Thus, while there was widespread agreement that the previous tax benefits were untenable, it is also widely agreed that the recent tax reforms have contributed to the current state of depression of the Scandinavian housing markets.

Second, experience from Denmark (which introduced an impure version of the DIT system already in 1987) suggests that it is difficult to gain popular acceptance of the idea that capital income should not be subject to ordinary progressive taxation. More generally, the Danish experience indicates that it is difficult to communicate the philosophy of the pure DIT system to voters and policy makers and that abandonment of the principle of global income taxation may therefore open the road to a rather incoherent system of schedular income taxation which is not really understood by anyone.

Third, notwithstanding the pedagogical problems relating to the pure DIT system, there is

a growing awareness among Nordic policy makers that the increasing international mobility of capital and the difficulties of taxing foreign source capital income call for a relatively low personal tax rate on income from capital, if problems of capital flight are to be avoided. In the end, the pressures from the international capital market probably also provide the best reason why other countries might find it relevant to experiment with the dual income tax in the years to come.

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